

CBOC PERFORMANCE EVALUATION
Program Implications and Future Performance Measures



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by

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HIGHLIGHTS

The CBOC Performance Evaluation Project was initiated in FY 1998 in response to the Under Secretary for Health's request that HSR&D formulate a plan for evaluating community-based outpatient clinic (CBOC) performance and conduct a system-wide evaluation of CBOCs. The evaluation assessed CBOC performance on a wide range of measures nominated by a national committee of VA managers and researchers. These measures cover six domains: access, cost, mental health, quality, patient satisfaction, and utilization.

This report is the fifth in a series for this project. Previous reports presented the CBOC characteristics and performance measures against which the CBOCs would be assessed, a description of CBOC characteristics, and analyses of CBOC performance on selected measures. An additional performance report is forthcoming.

This report addresses both the short- and long-term objectives for the project. First, it summarizes the conclusions of the evaluation drawn from earlier reports in the context of program implications. Second, it presents a set of recommended measures that can be used for ongoing monitoring of CBOC performance.

Program Implications

Meeting CBOC Goals and Objectives

In general, CBOCs have been successful in meeting their goals and objectives across the six domains measured. Overall, in comparison with parent VAMCs, CBOC patients had more primary care visits, had shorter clinic waiting times, traveled shorter distances, and were somewhat more satisfied with their care. CBOCs brought new patients into the VA system. Also, based on limited analyses, CBOCs appeared to have lower total costs per patient than parent VAMCs.

There are, however, several areas that warrant attention:

- CBOC patients reported somewhat less frequently that one provider or team was in charge of their care. This pattern should be examined to determine if this is due to splitting care between the CBOC and parent, or switching providers within the CBOC.
- CBOC patients received fewer specialty visits and had fewer hospitalizations compared to patients seen at the parent facility after case-mix adjustments. This could reflect more comprehensive care being provided by the primary care team at the CBOC, or it could signal barriers to needed referrals to the Parent VAMC.
- CBOCs on average had lower eye examination scores for patient with diabetes compared to their parent VAMCs. In addition, some individual CBOCs had selected Prevention Index and Chronic Disease Care Index indicator scores that were significantly lower than the affiliated parent VAMC.
- The cost of an individual primary care visit appears to be higher at CBOCs compared to parents. This could be due to startup costs or higher operating costs.

- CBOCs served a slightly lower percent of service-connected veterans.
- CBOCs served smaller proportions of women (4.2% versus 6.4%) and African Americans (6.2% versus 14.3%) compared to the parent medical centers.

In addition to these programmatic issues, more work is needed to analyze the costs of CBOCs in comparison with parent VAMCs, and across types of CBOCs.

Comparing VA-staffed and Contract CBOCs

On most performance measures, VA-staffed and Contract CBOCs performed equally, but there are several differences worth investigating further:

- Patients seen at Contract CBOCs had fewer primary visits at the CBOC, fewer specialty care visits at the parent VA and longer average waiting times for a follow-up visit after a hospitalization compared to VA-staffed CBOCs. Clearly delays in hospitalization follow-up visits need to be reduced. The reasons for the other differences should be carefully examined.
- Fewer Contract CBOCs offered mental health services and had fewer patients assigned a mental health diagnosis, both indicating that they deal less frequently with mental health issues.
- Cost data for Contract CBOCs are inadequate for comparison to VA-staffed CBOCs or Parent VAMCs. The entry of Contract cost data into the Decision Support System needs to be improved.
- While not statistically significant, there was a tendency for Contract CBOCs to score lower on the Prevention Index and Chronic Disease Care Index indicators.

Future Performance Measures

Based on our experience in conducting this evaluation, we recommend 12 measures for ongoing use in monitoring CBOC performance. The study team started with 25 measures in six domains nominated by the national committee at the beginning of the study.

We used four criteria in selecting these 12 recommended measures: usefulness to stakeholders, data availability, breadth of issues covered, and availability of performance standards.

- Seven measures are recommended because they are part of the VA FY 2000 Performance Plan or the Network Directors' Performance Measures. As such, they have several advantages: (1) they have proven usefulness to administrators, (2) data collection, analysis, and reporting mechanisms are already established, (3) national standards have been set to which one can compare CBOC performance, and (4) the contribution of the CBOCs to the performance of VA nationally can be assessed. The measures include:
 - Percent of patients seen within 20 minutes of scheduled appointment (Access 2).
 - Percent of patients seen within 30 days after hospitalization for a mental health disorder (Mental Health 3).

- Percent of veterans reporting one provider or team in charge of care (Quality 1).
 - Prevention Index (Quality 2).
 - Chronic Disease Care Index (Quality 3).
 - Average Customer Service Standard (CSS) score on the ambulatory care customer feedback survey (Satisfaction 1).
 - Percent of patients rating healthcare as very good or excellent (Satisfaction 2).
- Five additional measures are recommended although they are not part of either the FY 2000 Performance Plan or the Network Directors' Performance Measures. These measures are recommended because they will provide important additional information regarding access to care, cost and health care utilization. Performance standards will need to be developed for these measures.
 - Average waiting time for follow-up after hospitalization or surgery (Access 3).
 - Average cost per primary care visit (Cost 1).
 - Average primary care cost per patient (Cost 2).
 - Average total VA health care cost per patient (Cost 3).
 - VA bed days of care per patient (Utilization 6).

We also recommend that four measures be reported primarily as descriptive measures and not as performance measures. The information they provide is valuable and the marginal cost of collecting and analyzing the data is minimal.

- Percent of patients assigned a mental health diagnosis (Mental Health 1).
- User status and priority status of patients (Utilization 1).
- Average number of VA primary care visits per patient (Utilization 2).
- Average number of VA specialty visits per patient (Utilization 4).

Data for recommended measures would be obtained from a variety of sources: Austin Automation Center, Decision Support System, External Peer Review Program, and National Outpatient Customer Satisfaction Survey. We recommend that the VA VISN Support Service Center (VSSC) coordinate the acquisition of data and reporting of measures in conjunction with the Office of Performance and Quality, the External Peer Review Program and the National Outpatient Customer Satisfaction Survey administered by the VA National Performance Data Resource Center.

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INTRODUCTION

VHA Directive 97-036 allows for the establishment of Community Based Outpatient Clinics (CBOCs) so that more convenient access to care is available for veterans. A CBOC can be a VA-operated clinic or a VA-funded or reimbursed health care facility which is separate from the main VA medical facility. CBOC objectives are listed in Appendix A. From March 1995 to September 1999, VHA received approval for over 300 Community Based Outpatient Clinics (CBOCs) to provide health care for veterans.

The Department of Veterans Affairs' Under Secretary for Health requested that the Health Services Research and Development Service (HSR&D) formulate a plan for evaluating CBOC performance and conduct a system-wide evaluation of CBOCs. In response to the Under Secretary's request, HSR&D through its Management Decision and Research Center (MDRC) initiated the CBOC Performance Evaluation Project. MDRC contracted with a consortium of researchers at the HSR&D Centers of Excellence in Seattle, Little Rock, and Minneapolis to design and conduct the project. The immediate goals of the CBOC Performance Evaluation Project were to:

- Determine if CBOCs are meeting VHA's goals and objectives for CBOCs, and
- Determine if some types of CBOCs are more successful in meeting these goals and objectives than others.

The long-term goals were to:

- Establish a set of performance measures and data collection methods that can be used for ongoing evaluations of CBOCs, and
- Lay the groundwork for future CBOC cost and outcome evaluations not covered by the performance measures.

The CBOC Performance Evaluation Project conducted the first system-wide evaluation of CBOC performance. It included five components:

- Development of CBOC potential characteristics and performance measures.
- Data collection for the characteristics.
- Data collection for the performance measures.
- Analysis and reporting of CBOC performance using the CBOC characteristics and performance measures.
- Preparation of a set of recommended CBOC performance measures.

In FY 1998, the project team convened a national CBOC Performance Evaluation Committee to develop potential CBOC performance measures, descriptive characteristics, and data collection methodology to be used in the CBOC performance evaluation. The Committee members represented VHA Headquarters, HSR&D, VISN offices, VA medical facilities, and CBOCs (members are listed in Appendix B).

The Committee identified measures in six domains: access, cost, mental health, quality, patient satisfaction and utilization. These domains were based upon a review of health care performance measures used within and outside VA. Table 1 presents a brief description of the 25 performance measures recommended by the Committee, the source of data for each measure, and the name of the report that presents data for each measure. Sources of data include the Austin Automation Center, Decision Support System, External Peer Review Program, National Outpatient Customer Satisfaction Survey, and Planning System Support Group. A more complete description of the measures is contained in Appendix C and data from other reports comparing the national average performance of CBOCs to Parent VA facilities are presented in Appendix D.

This report summarizes the conclusions of the evaluation drawn from earlier reports and presents a set of recommended CBOC performance measures and suggestions for their implementation in future CBOC monitoring, based on our analysis of and experience with these measures.

PROGRAMMATIC IMPLICATIONS

In general, CBOCs have been successful in meeting their goals and objectives across the six domains measured. Overall, in comparison with Parent VAMCs, CBOC patients had more primary care visits, shorter clinic waiting times, traveled shorter distances, and were somewhat more satisfied with their care (overall satisfaction and satisfaction with access, patient education, emotional support, coordination of care and courtesy are more positive for CBOCs compared to parents). CBOCs bring new patients into the VA system. CBOCs are approximately equal to the parents with regard to percent of patients seen for a mental health diagnosis, satisfaction with specialty care access and waiting time for a follow-up visit after a medical or mental health hospitalization. The average quality scores for all CBOCs combined did not differ significantly from the scores of the parent VAMCs on 15 out of 16 Prevention Index and Chronic Disease Care Index indicators.¹ Also, based upon limited analysis, CBOCs appeared to have lower total costs per patient than Parent VAMCs.

There are however several areas that warrant attention:

- CBOC patients reported somewhat less frequently that one provider or team was in charge of their care. This could be a result of the separation between the CBOC and parent or because CBOC patients may be seeing multiple providers at the CBOC. We would recommend determining the source of this issue and possibly implement mechanisms to improve continuity and coordination between CBOC providers and VA hospital-based providers.

¹ There appeared to be a trend towards CBOCs having lower scores compared to their parent VAMCs but these differences were relatively small. The largest non-significant difference in scores was .06 which appeared on 5 indicators. For example, while the proportion of patients with hypertension receiving exercise counseling at the parent VAMCs was .89 the proportion at the CBOCs was .83.

Table 1. Nominated CBOC Performance Measures

Measure	Data Source	Report
Access		
Access 1: Average travel distance for CBOC patients (in different priority and user categories) to the CBOCs vs the Parent VAMCs	AAC	Report 2: Cost and Access Measures
Access 2: Percent of patients seen within 20 minutes of scheduled appointment	NPDRC	Report 1: Measures Based on Austin Automation Center and Patient Survey Data
Access 3: Average waiting time for follow-up after hospitalization or surgery	AAC	Report 1: Measures Based on Austin Automation Center and Patient Survey Data
Access 4: Percent of veterans who were able to access medical care when they needed care		Not Assessed (See Appendix F)
Access 5: Percent of Priority 1 and 2 veterans not using VA primary care and residing within 30 miles or 31-60 miles of a VA facility	AAC PSSG	Report 2: Cost and Access Measures
Cost		
Cost 1: Average direct cost per primary care visit	DSS	Report 2: Cost and Access Measures
Cost 2: Average primary care direct cost per patient	DSS	Report 2: Cost and Access Measures
Cost 3: Average total VA health care direct cost per patient	DSS	Report 2: Cost and Access Measures
Cost 4: Change in fee-basis costs before and after activation of the CBOC		Not Assessed (See Appendix F)
Mental Health		
Mental Health 1: Percent of patients assigned a mental health diagnosis	AAC	Report 1: Measures Based on Austin Automation Center and Patient Survey Data
Mental Health 2: Average weighted outpatient workload per clinical mental health FTEE		Not Assessed (See Appendix F)
Mental Health 3: Percent of patients seen within 30 days after hospitalization for a mental health disorder	AAC	Report 1: Measures Based on Austin Automation Center and Patient Survey Data
Quality		
Quality 1: Percent of patients reporting one provider or team in charge of care	NPDRC	Report 1: Measures Based on Austin Automation Center and Patient Survey Data
Quality 2: Prevention Index	EPRP	Report 3: Quality of Care Measures Based on Medical Record Review
Quality 3: Chronic Disease Care Index	EPRP	Report 3: Quality of Care Measures Based on Medical Record Review
Satisfaction		
Satisfaction 1: Average Customer Service Standard (CSS) score on the ambulatory care customer feedback survey	NPDRC	Report 1: Measures Based on Austin Automation Center and Patient Survey Data
Satisfaction 2: Percent of patients rating healthcare as very good or excellent	NPDRC	Report 1: Measures Based on Austin Automation Center and Patient Survey Data
Satisfaction 3: Percent of patients rating their VA healthcare encounter as equivalent to or better than what they would receive from any other healthcare provider		Not Assessed (See Appendix F)

AAC: Austin Automation Center
 DSS: Decision Support System
 EPRP: External Peer Review Program
 NPDRC: National Performance Data Resource Center
 PSSG: Planning System Support Group

Table 1. Nominated CBOC Performance Measures - continued

Utilization		
Utilization 1: User status and priority status of patients	AAC	Report 1: Measures Based on Austin Automation Center and Patient Survey Data
Utilization 2: Average number of VA primary care visits per patient	AAC	Report 1: Measures Based on Austin Automation Center and Patient Survey Data
Utilization 3: Average weighted outpatient workload per clinical FTEE		Not Assessed (See Appendix F)
Utilization 4: Average number of VA specialty visits per patient	AAC	Report 1: Measures Based on Austin Automation Center and Patient Survey Data
Utilization 5: Percent of patients who have: 1) seen a non-VA physician in the past 12 months, 2) been admitted to a non-VA hospital in the past 12 months		Not Assessed (See Appendix F)
Utilization 6: VA bed days of care per patient	AAC	Report 1: Measures Based on Austin Automation Center and Patient Survey Data
Utilization 7: Average number of VA hospital admissions per 1000 patients	AAC	Report 1: Measures Based on Austin Automation Center and Patient Survey Data

AAC: Austin Automation Center
 DSS: Decision Support System
 EPRP: External Peer Review Program
 NPDRC: National Performance Data Resource Center
 PSSG: Planning System Support Group

- CBOC patients received fewer specialty visits and have fewer hospitalizations compared to patients seen at the parent facility after case-mix adjustments. This could reflect more comprehensive care being provided by the primary care team at the CBOC, or it could signal barriers to needed referrals to the Parent VAMC. Efforts should be made to determine if ease of referrals is a problem and make corrections where necessary.
- The cost of an individual primary care visit appears to be higher at CBOCs compared to parents. This could be due to startup costs or to higher operating costs. The startup costs should go away over time. The higher operating costs could reflect poorer economies of scale at the CBOC and are not necessarily bad if they continue to result in lower overall costs and the other benefits such as improved access noted above. However, these costs should continue to be monitored.
- CBOCs on average had significantly lower eye examination scores for patients with diabetes compared to the parent VAMCs. In addition, some individual CBOCs had selected Prevention Index and Chronic Disease Care Index indicator scores that were significantly lower than the parent VAMC.
- CBOCs served a slightly lower percent of service-connected veterans. A concerted effort should be made to determine why this difference exists, especially for CBOCs where the percent of service-connected veterans is considerably lower than the parent.
- The percent of patients who were women (4.2% versus 6.4%) or African Americans (6.2% versus 14.3%) was smaller at the CBOCs compared to the parent medical facilities. This difference could be due to the placement of the CBOCs in communities that have fewer women and African American veterans or could be due to lower use by women and African American veterans in the community. Both possibilities need to be examined and remedial steps implemented.

In addition to these programmatic issues, more work is needed to analyze the costs of CBOCs in comparison with Parent VAMCs, and across types of CBOCs.

VA-staffed and Contract CBOCs are not substantially different on most of the performance measures: percent of patients seen within 20 minutes of the scheduled appointment; percent of patients reporting one provider or team in charge of care; timeliness of care; hospitalizations; patient satisfaction; and patient priority status. Areas of possible concern with regard to Contract CBOCs, however, include:

- Patients seen at Contract CBOCs had fewer primary visits at the CBOC, fewer specialty care visits at the parent VA, and longer average waiting times for a follow-up visit after a hospitalization compared to VA-staffed CBOCs. It is not clear if this pattern is of real concern, but it warrants further monitoring. The Contract CBOCs have a financial incentive to minimize primary care visits because their compensation is most commonly capitated. Our forthcoming report on Quality of Care will partially address this concern. Fewer specialty visits could be due to the fact that Contract CBOCs are on average farther from the parent VA making referrals more difficult. Better coordination between the CBOC and parent may be necessary. We were unable to measure utilization outside the VA and it is possible that Contract CBOC patients did receive specialty care in the community. Better discharge planning with Contract CBOCs is clearly necessary.

- Fewer Contract CBOCs offer mental health services and have fewer patients assigned a mental health diagnosis, both indicating that they deal less frequently with mental health issues. This problem could be addressed by also contracting with mental health providers in the community, only selecting contractors that provide both medical and mental health care, or increasing the time devoted to mental health issues by the primary providers at Contract CBOCs.
- While not statistically significant, there was a tendency for Contract CBOCs to score lower on Prevention Index and Chronic Disease Care Index indicators.
- We do not have adequate cost data for contract CBOCs. Such data are critical to future decisions regarding the establishment of VA-staffed versus contract CBOCs. The VA Decision Support System should more accurately assess the cost of contract CBOCs in the future.

FUTURE PERFORMANCE MEASURES

Criteria for Selection of Performance Measures

In recommending performance measures for future use we took into consideration their usefulness to stakeholders, data availability, breadth of issues covered, and availability of performance standards.

Usefulness to stakeholders. Existing VA performance measurement systems such as the FY 2000 Performance Plan and the Network Directors' Performance Measures are intended to serve several groups: national, regional, and local VA administrators; clinicians; veterans; and Congress. We anticipate that the CBOC performance measures will serve those stakeholders in a similar manner and answer questions such as the following:

- Are CBOCs meeting their goals?
- How do CBOCs compare to their Parent VA medical facility?
- How do Contract CBOCs compare to VA-staffed CBOCs?

We have recommended measures that are already included in other performance evaluation systems for two reasons. First, they have been included in an existing system because they address important administrative issues. Second, because the performance of CBOCs contributes to the overall performance of the Network or VA as a whole, stakeholders will want to know how the CBOC is contributing.

Data Availability. We used several sources of data to assess the performance of CBOCs: Austin Automation Center, Decision Support System, External Peer Review Program, National Outpatient Customer Satisfaction Survey conducted by the National Performance Data Resource Center, Planning System Support Group (see Table 1). These sources were used because they were available, provided relevant data, and in most cases reduced the need for primary data collection. In the case of the External Peer Review Program, primary data was collected for two of the quality measures. Performance measures could not be assessed if pertinent data did not exist and several measures had to be eliminated for this reason (see Appendix F).

Breadth of Issues Covered. We feel it is important to include measures from each of the domains listed in Table 1: access, cost, mental health, quality, satisfaction, and utilization. At the same time we wanted to be parsimonious and therefore decided not to recommend a measure if it was too similar to another measure that had already been included, e.g., Utilization 7 (Number of Hospital Admissions) was not included because it was similar to Utilization 6 (Bed Days of Care).

Availability of Performance Standards. For a performance measure to be useful there must be some means of evaluating the performance of an individual or group of CBOCs relative to some standard. Such standards have been established for the FY 2000 Performance Plan and the Network Directors' Performance Measures. Appendix E presents the national standards for the limited number of CBOC performance measures that correspond to the FY 2000 Performance Plan or the Network Directors' Performance Measures.

Not having a national standard, however, does not mean that a measure should not be included. One possibility is to develop standards for the CBOC specific measures by a process similar to the method by which standards were developed for the FY 2000 Performance Plan and the Network Directors' Performance Measures. A second possibility is to use the actual performance of the CBOCs' parent VA facilities as the standard. Comparisons of CBOC to Parent VAMC performance was a primary means of presenting data in performance reports produced by the CBOC Performance Evaluation Project: Report 1: Measures Based on Austin Automation Center and Patient Survey Data; Report 2: Cost and Access Measures; Report 3: Quality of Care Measures Based on Medical Record Review. CBOC to parent VA facility comparisons can be done when analyzing CBOCs at the national, VISN, or individual CBOC level. Although comparison to the parent VA facility does not set an absolute standard of performance for the CBOC, it does allow for a determination of the relative performance of the CBOC and Parent VAMC.

It may not be currently meaningful or appropriate to have a performance standard for some measures. Such measures should be used purely for descriptive purposes. For example, it may not be appropriate to set a national standard or use the parent VA medical facility as a standard when evaluating Utilization 2: Average number of VA primary care visits per patient. Having more, equal, or fewer visits at the CBOC compared to the parent VA facility does not indicate better or worse performance by itself. Such information would, however, be of value to stakeholders especially when other information is taken into account such as use of specialty services, quality of care, and total cost of care, or type of CBOC (VA-staffed versus Contract). Strictly speaking, descriptive measures would not be included in a list of performance measures. However, we will recommend descriptive measures when their inclusion will not substantially increase the cost of data collection.

Recommendations

Table 2 presents a summary of our recommendations. We suggest that at a minimum the 7 measures that have nationally available standards be designated as CBOC performance measures. These measures should be included for four reasons: (1) they have proven usefulness to administrators, (2) data collection, analysis, and reporting mechanisms are already established, (3) national standards have been set to which one can compare CBOC performance, and (4) the contribution of the CBOCs to the performance of VA nationally can be assessed.

We also recommend that five additional measures be included although national standards are not currently available. These five measures should be used by comparing the CBOC to the parent VA facility or by developing national standards for each of them.

Table 2. Recommendations Regarding Which CBOC Measures to Include and Not Include

Measure	National Standard Available	No ² National Standard	Descriptive	Do Not Include ³
Access				
Access 1: Average travel distance for CBOC patients (in different priority and user categories) to the CBOCs vs the Parent VAMCs				X
Access 2: Percent of patients seen within 20 minutes of scheduled appointment	INCLUDE			
Access 3: Average waiting time for follow-up after hospitalization or surgery		INCLUDE		
Access 4: Percent of veterans who were able to access medical care when they needed care				X
Access 5: Percent of Priority 1 and 2 veterans not using VA primary care and residing within 30 miles or 31-60 miles of a VA facility				X
Cost				
Cost 1: Average direct cost per primary care visit		INCLUDE		
Cost 2: Average primary care direct cost per patient		INCLUDE		
Cost 3: Average total VA health care direct cost per patient		INCLUDE		
Cost 4: Change in fee-basis costs before and after activation of the CBOC				X ⁴
Mental Health				
Mental Health 1: Percent of patients assigned a mental health diagnosis			INCLUDE	
Mental Health 2: Average weighted outpatient workload per clinical mental health FTEE				X
Mental Health 3: Percent of patients seen within 30 days after hospitalization for a mental health disorder	INCLUDE			
Quality				
Quality 1: Percent of patients reporting one provider or team in charge of care	INCLUDE			
Quality 2: Prevention Index	INCLUDE			
Quality 3: Chronic Disease Care Index	INCLUDE			
Satisfaction				
Satisfaction 1: Average Customer Service Standard (CSS) score on the ambulatory care customer feedback survey	INCLUDE			
Satisfaction 2: Percent of patients rating healthcare as very good or excellent	INCLUDE			

² CBOC could be compared to Parent VA medical facilities using these measures or performance standards could be developed.

³ The reasons for not including these measures are presented in Appendix F.

⁴ Change in fee-basis costs may be important to include as a performance measure in the future. See Appendix F for an explanation of why we did not include fee-basis costs.

Satisfaction 3: Percent of patients rating their VA healthcare encounter as equivalent to or better than what they would receive from any other healthcare provider				X
Utilization				
Utilization 1: User status and priority status of patients			INCLUDE	
Utilization 2: Average number of VA primary care visits per patient			INCLUDE	
Utilization 3: Average weighted outpatient workload per clinical FTEE				X
Utilization 4: Average number of VA specialty visits per patient			INCLUDE	
Utilization 5: Percent of patients who have: 1) seen a non-VA physician in the past 12 months, 2) been admitted to a non-VA hospital in the past 12 months				X
Utilization 6: VA bed days of care per patient ⁵		INCLUDE		
Utilization 7: Average number of VA hospital admissions per 1000 patients				X

⁵ The current national standard for Utilization 6: Bed Days of Care is based upon patients seen by a specialty clinic. This would need to be modified for patients seen in primary care clinics.

In addition, we recommend that four measures be used for descriptive purposes. These measures should be informative although they should not be used at this time to evaluate CBOCs. For example, one would be concerned if the average number of VA specialty visits per patient (Utilization 4) for Contract CBOCs exceeded the average for parent VA primary care patients. Such a finding should lead to an examination of why the CBOC has more referrals. The three Utilization measures (User Status, Primary Care Visits, and Specialty Care Visits) in conjunction with a fourth Utilization measure (Bed Days of Care) will offer a reasonable picture of the pattern of utilization (See Performance Report 1: Measures Based on Austin Automation Center and Patient Survey Data). At some time in the future VA may wish to develop performance standards for Utilization 2: Primary Care Visits and Utilization 4: Specialty Care Visits in a manner similar to the current standard for Utilization 6: Bed Days of Care.

Nine measures in Table 2 are not recommended for adoption. The reasons for their exclusion are presented in Appendix F.

Implementation of the Recommendations

The CBOC Performance Evaluation Project was undertaken to recommend a set of performance measures but not to oversee their implementation in the future. We would recommend that the VISN Support Service Center (VSSC) coordinate with the Office of Performance and Quality to collect and disseminate the measures on an ongoing basis. The VSSC would report both the performance of individual CBOCs and national averages for CBOCs. We believe that the VSSC should coordinate this effort because it is unlikely that more than a few VISNs or individual medical facilities have the resources to obtain and analyze the data necessary to construct the performance measures. In addition, the construction of the measures can be done more efficiently, uniformly, and objectively for all CBOCs at a central site.

The actual data for the recommended measures come from four sources listed in Table 3: Austin Automation Center, Decision Support System, External Peer Review Program, National Performance Data Resource Center. Data from the Austin Automation Center and the Decision Support Systems' National Extract can be obtained by programmers within the VSSC. Data on quality can be obtained from the External Peer Review Program. The VSSC should work with the External Peer Review Program to ensure that an appropriate sample of medical records from CBOCs are included. Data on patient satisfaction are collected nationally by the National Performance Data Resource Center as part of National Outpatient Customer Satisfaction Survey. The VSSC should work with this group to ensure that adequate samples of CBOC patients are included and that it is clear to the respondents that they are expressing their satisfaction with CBOC care.

The VSSC should also work with the Office of Performance and Quality to establish performance standards for the recommended measures for which national standards do not currently exist (see Table 2).

Table 3. Recommended CBOC Performance Measures By Source of Data

Measure
Source: Austin Automation Center
Access 3: Average waiting time for follow-up after hospitalization or surgery
Mental Health 1: Percent of patients assigned a mental health diagnosis
Mental Health 3: Percent of patients seen within 30 days after hospitalization for a mental health disorder
Utilization 1: User status and priority status of patients
Utilization 2: Average number of VA primary care visits per patient
Utilization 4: Average number of VA specialty visits per patient
Utilization 6: VA bed days of care per patient
Source: Decision Support System
Cost 1: Average direct cost per primary care visit
Cost 2: Average primary care direct cost per patient
Cost 3: Average total VA health care direct cost per patient
Source: External Peer Review Program
Quality 2: Prevention Index
Quality 3: Chronic Disease Care Index
Source: National Performance Data Resource Center
Access 2: Percent of patients seen within 20 minutes of scheduled appointment
Quality 1: Percent of patients reporting one provider or team in charge of care
Satisfaction 1: Average Customer Service Standard (CSS) score on the ambulatory care customer feedback survey
Satisfaction 2: Percent of patients rating healthcare as very good or excellent

Precautions

There are three precautions we recommend to ensure that the measures are appropriately interpreted.

Too Few Patients at Individual CBOCs. The reliability of performance measures are dependent upon several factors including the number of patients included in the dataset used to estimate the measure. When measures are calculated at the Network level or for VA as a whole, the number of patients available is usually relatively large. Under these circumstances the measures are relatively stable, i.e. have small confidence intervals. However, some measures (e.g. Mental Health 3: Patients seen within 30 days after hospitalization for a mental health disorder) when calculated for individual CBOCs will be based upon a relatively small number of patients. For this reason, one should be cautious about interpreting or even reporting performance measures based upon small numbers. This will be especially true when reporting for individual CBOCs.

Differences Between Patient Groups. When the performance of two CBOCs or a CBOC and a Parent VA medical facility are being compared, the characteristics of patients that go to the two facilities may be quite different. For example, patients seen in primary care at the CBOC may have fewer diagnoses than patients seen in primary care at the Parent VA facility. In previous CBOC Performance Evaluation Project reports we attempted to reduce the influence of patient differences on the differences in performance measures by case-mix adjusting the performance measures. Case-mix adjusting may or may not be successful in correcting for group differences. It is difficult to be sure that one has taken into account all the important differences between the groups. For these reasons it is essential that appropriate adjustments are made when comparing two facilities on a set of performance measures. It is equally important that even after such adjustments have been made that any differences between two facilities still be interpreted with caution. The need to adjust for group differences has implications for both the data and expertise needed to calculate performance measures.

In Table 2, we recommend that CBOCs be compared to national standards when such standards are available. The need to take into account differences in patients served by individual CBOCs is also relevant when comparisons are made to national standards (See Appendix E).

Validity of Cost Data Obtained from the Decision Support System. Data for the three recommended cost measures are obtained from the VA Decision Support System (DSS). DSS is a relatively new system and many VA medical facilities do not have extensive experience in its use. The learning process associated with entering information into DSS may result in DSS cost estimates that are not adequately accurate. Given the limited amount of research that has been done to validate DSS cost estimates,⁶ specific point estimates generated from DSS may not be fully accurate. For this reason we would not suggest using the system to estimate exact costs for CBOCs until medical facilities have more experience with its use and until the costs generated by DSS have been validated.

⁶ See the paper by Barnett and Rogers (1999) listed in the Reference section.

The relative cost of two programs (e.g. Parent VAMC versus CBOC primary care) may be more accurate when the cost estimates for the two programs are obtained from DSS at a single VA medical facility. The relative costs may be more accurate than specific point estimates because biases built into an individual DSS are more likely to apply equally (although not always) to both programs. In addition, we would recommend using only direct costs for services reported in DSS and not using indirect costs at this time. Indirect costs seem to be entered less uniformly across VA medical facilities. Indirect costs are particularly important when comparing the cost of VA-staffed CBOCs to the cost of Contract CBOCs, since Contract CBOCs most likely include indirect costs (administration, space, etc.) in their contracted costs. For this reason, precise comparisons of Contract CBOC costs to VA costs are dependent upon good measures of indirect VA costs.

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APPENDICES

APPENDIX A

CBOC Objectives from VHA Directive 97-036

1. Improve quality of care by facilitating patient compliance with clinical instructions and continuity of care (because of more convenient access) and by promoting more timely attention to medical problems.
 2. Shorten hospital length of stay by accomplishing pre-admission work-up or providing post-discharge follow-up care closer to the patient's home.
 3. Reduce the need to travel long distances to receive care, thus reducing beneficiary travel expenditures.
 4. Reduce the distance veterans need to travel in congested urban traffic or inclement weather.
 5. Redirect patients currently served at medical center clinics and thereby shorten waiting times or relieve congestion at these treatment sites.
 6. Reduce fee-basis care (when that would be cost-beneficial).
 7. Shorten waiting times for follow-up care (e.g., post surgical or after hospitalization).
 8. Reduce the operating cost of providing care; i.e., provide care to existing patients at a lower cost by providing it in a community ambulatory care setting rather than a hospital-based clinic.
 9. Reduce the need for home health services because of more accessible follow-up care.
 10. Enhance service delivery by community agencies through improved liaison.
 11. Improve access to care for historically underserved veteran populations.
 12. Improve overall customer satisfaction for current users.
 13. Shift emphasis to prevention, promotion of health and patient education in contrast to treating patients episodically.
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APPENDIX B

CBOC PERFORMANCE EVALUATION COMMITTEE

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APPENDIX C

DESCRIPTION OF PERFORMANCE MEASURES EVALUATED BY THE CBOC PERFORMANCE EVALUATION PROJECT RESEARCH TEAM

Access 1: Average travel distance for CBOC patients (in different priority and user categories) to the CBOCs vs the Parent VAMCs. This performance measure assesses whether CBOCs have improved geographic access for veterans receiving medical care at the CBOCs. The sources of this measure are VHA Directive 97-036 CBOC Objectives #3 & #11 and the General Accounting Office Report (GAO/HEHS 98-116). The VHA objective for CBOCs is to reduce the need to travel long distances to VA primary care by improving access for historically underserved veteran populations.⁷ This performance measure was calculated by comparing the average distance traveled by CBOC patients to CBOCs vs Parent VA medical facility. Average travel distance was estimated using AAC zip code data and straight-line distance between zip code centroids.⁸ CBOC patients with service-connected conditions rated 30% or higher (priority levels 1 and 2) were defined as ‘high priority’ and all other veterans were defined as ‘low priority.’ CBOC patients with visits or admissions in FY 1995, FY 1996 or FY 1997 were defined as ‘old’ VA patients, and those with visits or admissions only in FY 1998 were defined as ‘new’ VA patients.

Access 2: Percent of patients seen within 20 minutes of scheduled appointment. This performance measure assesses patient waiting time during clinic visits. The sources of this measure are VHA Directive 97-036 CBOC Objective #5 and the FY 2000 Performance Plan. The VHA objective for CBOCs is to reduce waiting time during clinic visits. This performance measure was calculated by determining the proportion of veterans reporting on the NPDRC survey that they were seen within 20 minutes or less from the time of their scheduled appointment.

Access 3: Average waiting time for follow-up after hospitalization or surgery. This performance measure assesses number of days lapsed from the date of discharge for hospitalization or surgery until the date of follow-up care at CBOC or VAMC. The source of this measure is VHA Directive 97-036 CBOC Objective #7. The VHA objective for CBOCs is to reduce waiting time for follow-up care. To calculate this measure all discharges after 4/1/98 and before 8/31/98 were analyzed.⁹ If a patient had

⁷ VHA uses a 30-minute travel standard to define ‘reasonable access’ to VHA primary care. Veterans traveling greater than 30 minutes have been considered ‘historically underserved’. *GAO/HEHS 98-116*, p 3, 7, 14. See References.

⁸ The 1999 Zip List Geocode file has latitude and longitude fields that contain geographic coordinates in degrees of the "centroid" of the zip code area.

⁹ Discharges after 9/1/98 were dropped so that at least 30 days worth of outpatient data were available in the FY98 (10/1/97 to 9/30/98) files to identify follow-up visits. If no follow-up visit was identified in FY98, the number of days between the discharge date and 10/1/98 was defined as the follow-up time.

more than one discharge during this time period, only the first discharge was analyzed. The first outpatient visit following the discharge was defined as the follow-up visit. The number of days between the discharge date and the follow-up visit was defined as the waiting time.

Access 5: Percent of priority 1 and 2 veterans not using VA primary care and residing within 30 miles or 31-60 miles of a VA facility. This performance measure assesses whether CBOCs have improved primary care access for service-connected veterans residing in close proximity to the CBOCs. The sources of this measure are VHA Directive 97-036 CBOC Objectives #3 & #11 and the General Accounting Office Report (GAO/HEHS 98-116). The VHA objective for CBOCs is to reduce the need to travel long distances to VA primary care by improving access for historically underserved veteran populations.¹⁰ US zip code centroids¹¹ and data from the Planning Systems Support Group and the AAC were used to calculate the percent of priority 1 and 2 veterans (service-connected conditions rated 30% or higher) who are non-VA users residing within 30 and 31-60 miles of the CBOCs and Parent VA medical facilities.

Cost 1: Average direct cost per VA primary care visit. The source of this measure is VHA Directive 97-036 CBOC Objective #8: "Reduce the operating cost of providing care; i.e., provide care to existing patients at a lower cost by providing it in a community ambulatory care setting rather than a hospital-based clinic". This measure was calculated by taking the ratio of the total primary care direct costs and total primary care visits for each patient in the sample. The numerator of costs and the denominator of visits were both generated from DSS administrative data. For CBOC patients, the ratio included costs and visits at the VAMC primary care clinics (primary care, general internal medicine, women's health, and geriatrics) and the CBOC, because CBOC-specific care could not be differentiated from VAMC-specific care due to the absence of substation numbers in the DSS cost data. Therefore, the cost per primary care visit for CBOC patients includes both CBOC and VAMC visits and it is not a cost per primary care visit solely at the CBOC.¹² However, because of the low use of Parent VAMC primary care by CBOC patients, the CBOC cost estimates should not be unduly influenced by this problem. For VAMC patients, the ratio includes only costs and visits at the VAMC primary care clinics. Direct cost data was generated from the 1998 DSS Outpatient National Extract.

Cost 2: Average VA primary care direct cost per patient. The sources for this measure are VHA Directive 97-036 CBOC Objective #8 and the FY 2000 Performance

¹⁰ VHA uses a 30-minute travel standard to define 'reasonable access' to VHA primary care. Veterans traveling greater than 30 minutes have been considered 'historically underserved'. *GAO/HEHS 98-116*, p 3, 7, 14. See References.

¹¹ The 1999 Zip List Geocode file has latitude and longitude fields that contain geographic coordinates in degrees of the "centroid" of the zip code area.

¹² According to Performance Report 1, only 14.1% of veterans classified as CBOC patients also had at least one stop at the primary care clinic of the Parent VAMC during the study period, and only 3.1% had more primary care stops at the Parent VAMC than the CBOC. The results of the cost performance measures should not be sensitive to this misattribution problem.

Plan. This measure was calculated by aggregating the direct, non-ancillary cost of primary care visits for each CBOC and VAMC patient in the sample. Direct cost data for this cost measure was also generated from the 1998 DSS Outpatient National Extract.

Cost 3: Average total VA health care direct cost per patient. The source for this measure is VHA Directive 97-036 CBOC Objective #8. This measure was calculated by aggregating direct costs for all outpatient and inpatient encounters for each patient in our sample. The four types of encounters include primary care, specialty care, ancillary and other care, and inpatient care. Total cost data was generated from the 1998 DSS Outpatient and Inpatient National Extracts.

Mental Health 1: Percent of patients assigned a mental health diagnosis. This performance measure assesses the parity in access for patients with mental as well as physical illnesses. The source of this measure is the report of the Committee for Seriously Mentally Ill Veterans. To calculate this measure for sampled patients, all clinic stops at any outpatient facility between 4/1/98 and 9/30/98 were identified. If the patient had a primary diagnosis (ICD9 code) at any clinic stop that was greater than 290.xx and less than 319.xx, the patient was defined as having been treated for a mental health disorder.

Mental Health 3: Percent of patients seen within 30 days after hospitalization for a mental health disorder. This performance measure assesses the proportion of CBOC veterans discharged from inpatient care after treatment for mental health disorders (including substance abuse diagnoses) who receive outpatient care related to mental health within 30 days of discharge. The sources of this measure are the 1998 Network Directors' Performance Measures, and the FY 2000 Performance Plan.¹³ To calculate this measure all discharges after 4/1/98 and before 8/31/98 were analyzed. All discharges with a primary diagnosis (the ICD9 code responsible for the majority of costs during the stay) greater than 290.xx and less than 319.xx were identified. If a patient had more than one discharge with a psychiatric primary diagnosis during this time period, only the first discharge was analyzed. All clinic stops to any VA facility within 30 days of the discharge date were identified. If the primary diagnosis of the stop was greater than 290.xx and less than 319.xx the patient was defined as having a follow-up mental health visit within 30 days of discharge. Because too few patients from each facility were discharged with a mental health diagnosis, the dummy variables (representing the fixed effects) were dropped from the regression specification. Likewise, because there were too few patients from each VISN with a mental health diagnosis, the analysis was not conducted separately for each VISN. Likewise, because too few of the CBOC patients were discharged with a mental health diagnosis, the impact of CBOC characteristics could not be estimated reliably.

¹³ It should be noted that we calculated this measure somewhat differently than the Network Directors' Performance Measures. We used diagnostic codes (ICD9) to identify mental health visits while the Network measure uses procedure codes (CPT). We used the ICD9 code because we felt it was more reliable. In addition, we included substance abuse discharges while the Network measure does not.

Quality 1: Percent of patients reporting one provider or team in charge of care.

This performance measure assesses overall continuity of patient care. The sources of this measure are the 1998 Network Directors' Performance Measures and the FY 2000 Performance Plan. This performance measure was calculated by determining the proportion of NPDRC survey respondents answering yes to the question, "Is there one provider or team in charge of your care?"

Quality 2: Prevention Index. This performance measure assesses compliance with seven nationally recognized primary prevention and early detection recommendations for six diseases with major social consequences: influenza and pneumococcal diseases; tobacco consumption; alcohol abuse; and cancer of the colon and prostate. The source for this measure is the 1998 Network Directors' Performance Measures, the FY 2000 Performance Plan, and VHA Directive 97-036 CBOC Characteristic #12. The data were obtained by an external review of patient medical records at the CBOCs and Parent VA medical facility.¹⁴ The measure was calculated by determining the proportion of veterans receiving each recommended intervention among those eligible for the intervention.

Quality 3: Chronic Disease Care Index. This performance measure assesses compliance with nine nationally recognized guidelines for three high volume diagnoses: hypertension, diabetes mellitus, and obesity. The sources for this measure are the 1998 Network Directors' Performance Measures and the FY 2000 Performance Plan. The data were obtained by an external review of patient medical records at the CBOCs and Parent VA medical facilities. The measure was calculated by determining the proportion of veterans receiving each recommended intervention among those eligible for the intervention.

Satisfaction 1: Average Customer Service Standard (CSS) score on the ambulatory care customer feedback survey. This performance measure assesses veterans' perceptions of their health care in several categories (Customer Service Standards). The source of this measure is the 1998 Network Directors' Performance Measures. CSS scores are computed based on answers to NPDRC survey questions pertaining to a particular CSS. The number of questions pertaining to the CSS scores in this report range from two to seven. The CSS scores are based on the proportion of survey responses to questions in each CSS category, indicative of a problem with care. Therefore, higher CSS scores indicate more perceived problems with care. CSS scores range from 0-1. Response categories indicative of a "problem" previously established by NPDRC were used in computing CSS scores. This report does not include the CSS for Continuity of Care because the single survey question that is used for that CSS is used as the basis for another performance measure (Quality 1). This report also does not include the CSS for Pharmacy because the questions for that CSS were not framed for CBOC-Parent VA medical facility comparisons.

¹⁴ The medical record reviews were conducted by the External Peer Review Program (EPRP).

This CBOC performance measure includes separate scores for the following eight Customer Service Standards:

Satisfaction 1a—Access/Timeliness: This CSS assesses provision of timely access to health care based on the following survey questions:

- What happened when you called for an appointment?
- Were you able to get this clinic appointment as soon as you wanted?
- On the day of your appointment, how long did you wait in line to register?
- How long after the time when your appointment was scheduled to begin did you wait to be seen?
- Did you have to wait too long in the waiting room?
- Did you spend as much time with your provider as you wanted?
- Do you think your problem should have been handled sooner?

Satisfaction 1b--Patient Education/Information: This CSS assesses provision of information and education about health care that the patient understands based on the following survey questions:

- When you asked questions, did you get answers you could understand?
- Did the provider explain why you needed tests in a way that you could understand?
- After the tests were done, did the provider explain the results in a way that you could understand?
- Did someone explain the purpose of any prescribed medicines in a way you could understand?
- Did someone tell you about side effects of your medicines in a way you could understand?
- Did the provider explain what to do if problems or symptoms continued, got worse, or came back?
- Did you get as much information about your health and/or treatment as you wanted from the provider?

Satisfaction 1c--Preferences: This CSS assesses involvement of the patient in decisions about care and meeting patient preferences based on the following questions:

- When you saw the provider, did he or she give you a chance to explain the reason for your visit?
- Did the provider listen to what you had to say?
- Were you involved in decisions about your care as much as you wanted?
- Was the provider willing to talk to your family or friends about your health or treatment?
- Did the provider ask how your family or living situation might affect your health?

Satisfaction 1d—Emotional Support: This CSS assesses provision of support to meet patients' emotional needs based on the following survey questions:

- Did you have concerns that you wanted to discuss but did not?
- If you and the provider did not talk about your concerns, was it because...(respondent chooses from 7 categories):
- Did you have confidence and trust in the provider you saw?
- Did you have trouble understanding the provider because of a language problem?

Satisfaction 1e—Coordination of Care (overall): This CSS assesses coordination of overall care based on the following questions:

- Were the providers who cared for you always familiar with your most recent medical history?
- Were there times when one of your providers did not know about tests you had or their results?
- Were there times when one of your providers did not know about changes in your treatment that another provider recommended?
- Were there times when you were confused because different providers told you different things?
- Did you always know what the next step in your care would be?
- Did you know who to ask when you had questions about your health care?

Satisfaction 1f—Coordination of Care (visit): This CSS assesses coordination of care related to a specific visit based on the following questions:

- Did someone tell you how you would find out the results of your tests?
- Did someone tell you when you would find out the results of your tests?
- If you needed another visit with this provider, did the staff do everything they could to make the necessary arrangements?
- If you needed another visit with another provider did the staff do everything they could to make the necessary arrangements?
- Did you know who to call if you needed help or had more questions after you left your appointment?

Satisfaction 1g—Courtesy: This CSS assesses provision of care with courtesy and dignity based on the following questions:

- How would you rate the courtesy of the person who made your appointment?
- Overall, how would you rate the courtesy of your provider?

Satisfaction 1h—Specialty Care Access: This CSS assesses perceptions concerning access to specialty care.

- During the past two months, what kind of specialist visits did you have?
- How often did you get to see specialists when you thought you needed to?
- How often did you have difficulty making appointments with the specialists you wanted to see?
- How often were you given enough information about why you were to see your VA specialists?
- How often did your VA specialists have the information they needed from

your medical records?

Satisfaction 2: Percent of patients rating healthcare as very good or excellent. This performance measure assesses overall satisfaction with healthcare delivery at CBOCs. The source of this measure are VHA Directive 97-036 CBOC Objective #12 and the FY 2000 Performance Plan. The VHA objective for CBOCs is to improve overall satisfaction. This performance measure was calculated by determining the proportion of NPDRC survey respondents that gave a rating of very good or excellent for the overall quality of their most recent CBOC or VA primary care clinic visit.

Utilization 1: User status and priority status of patients. This performance measure assesses the percent of unique veterans seen at CBOC by user status (current/new) and priority status. The sources for this measure are VHA Directive 97-036, 1998 Network Directors' Performance Measures, the General Accounting Office Report (GAO/HEHS 98-116), and the CBOC task force. To determine user status (new or old), inpatient and outpatient utilization data were examined for FY 1995, FY 1996 and FY 1997. Patients who had no visits or admissions in FY 1995, FY 1996 or FY 1997 were defined as new patients. Prior inpatient and outpatient service use in FY 1997 was not used as a covariate in the analysis of this performance measure since it was tautologically related to the dependent variable. Although there are seven priority groups, AAC data does not enable one to categorize patients into all seven of the groups. Therefore, patients with service-connected conditions rated above 30% (priority groups 1 and 2) were defined as high priority and all other veterans were defined as low priority. Service-connected (yes/no) and percent service-connected were not used as covariates in the analysis of this performance measure since they were tautologically related to the dependent variable.

Utilization 2: Average number of VA primary care visits per patient. This performance measure assesses the average number of primary care visits per unique veteran. The source for this measure is the General Accounting Office Report (GAO/HEHS 98-116). To calculate this performance measure, clinic stops made between 4/1/98 and 9/30/98 were counted. For CBOC patients, all visits to the CBOC were summed regardless of clinic or diagnosis. For primary care patients at the Parent VA medical facility, all visit to primary care clinics were counted regardless of diagnosis. Note that for CBOC patients, visits to primary care clinics at the Parent VA facility were not counted.

Utilization 4: Average number of VA specialty visits per patient. This performance measure assesses the generation of referrals by CBOCs for specialty consultations with VA healthcare specialists. The source of this measure is the CBOC task force. This performance measure was approximated by the number of stops at specialty clinics (i.e., not primary care, research, or administrative stops) the patient made between 4/1/98 and 9/30/98 to any VA facility. Note that in some cases, this may represent ongoing specialty care for chronic conditions rather than referrals from primary care to specialty care. However, there is no information in the AAC databases to distinguish a referral/consultation specialty visit from a follow-up/routine specialty visit.

Utilization 6: VA bed days of care per patient. This performance measure assesses acute bed-days of care per unique veteran. The sources for this measure are the 1998 Network Directors' Performance Measures, and the FY 2000 Performance Plan. To calculate this measure, all discharges from any VA facility after 4/1/98 and before 9/30/98 were identified and the length of stay determined. For patients with multiple discharges during the time period, the length of stay was summed across inpatient episodes. For patients with no admissions, the length of stay was set to zero.

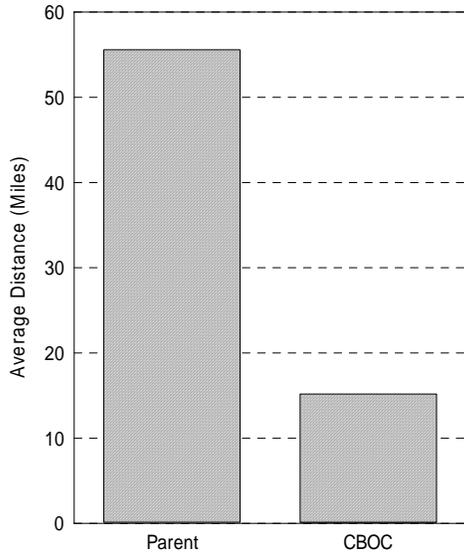
Utilization 7: Average number of VA hospital admissions per 1000 patients. This measure assesses the direct referrals for hospitalizations and indirect hospitalization admissions resulting from specialty consult referrals. The source of this measure is the CBOC Task Force. To calculate this measure, all admissions to any VA facility after 4/1/98 and before 9/30/98 were identified. For each patient, the total number of admissions during the six month period was then calculated.

APPENDIX D

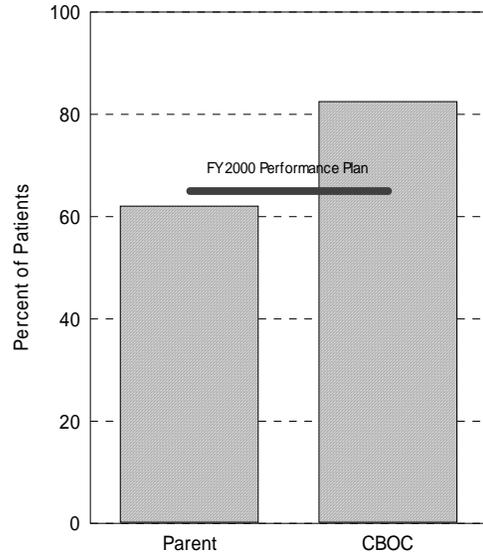
COMPARISON OF NATIONAL AVERAGE PERFORMANCE OF CBOCS TO THE NATIONAL AVERAGE PERFORMANCE OF PARENT MEDICAL FACILITIES.

In each figure the bar labeled Parent represents the performance for patients seen in the Parent VA medical facilities' primary care clinic. The bar labeled CBOC represents the performance for patients seen at the CBOC.

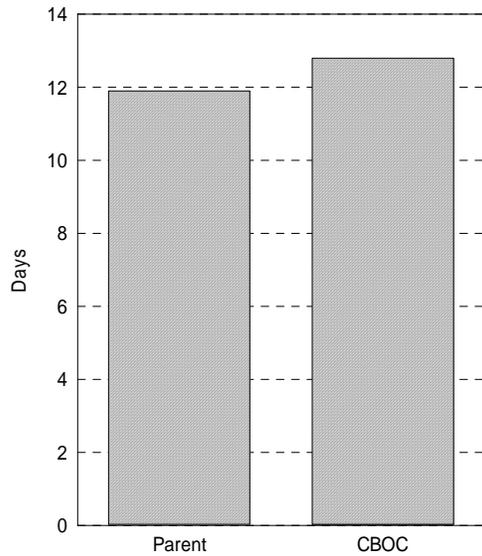
Access 1: Travel Distance For CBOC Patients To The CBOC Versus The Parent VAMC



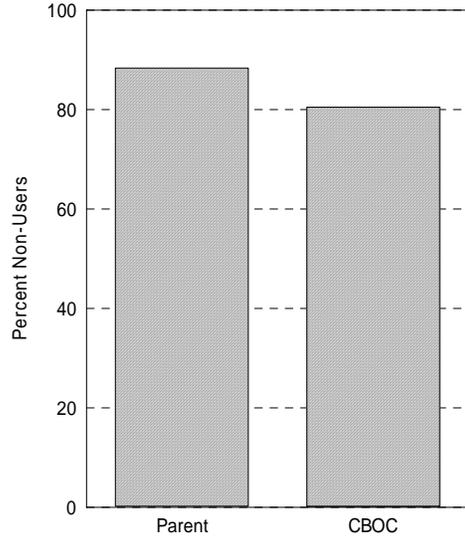
Access 2: Patients Seen Within 20 Minutes Of Scheduled Appointment



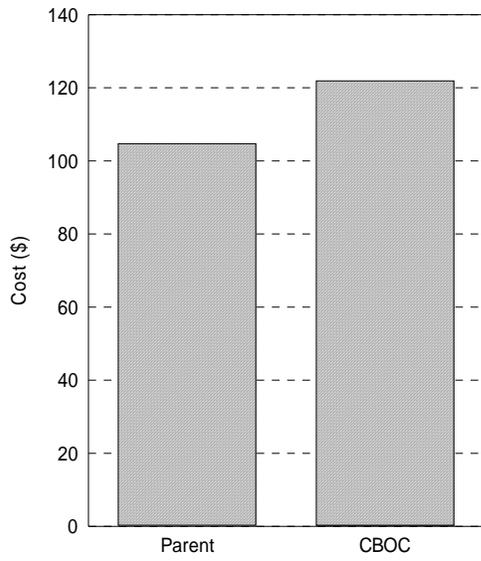
Access 3: Average Waiting Time For Follow-Up After Hospitalization Or Surgery



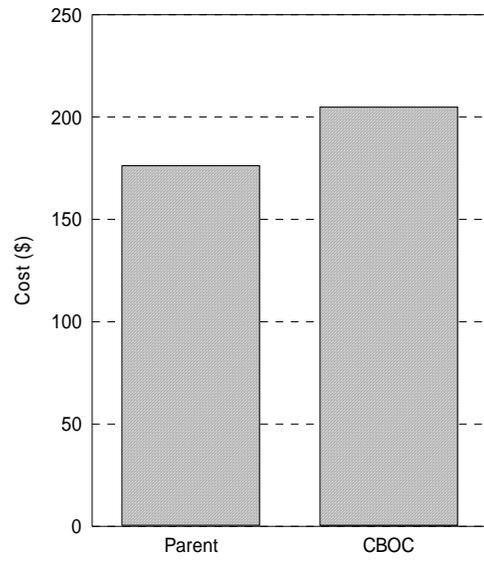
Access 5: Priority 1 and 2 Veterans Not Using VHA Primary Care and Residing Within 30 Miles of VHA Facility



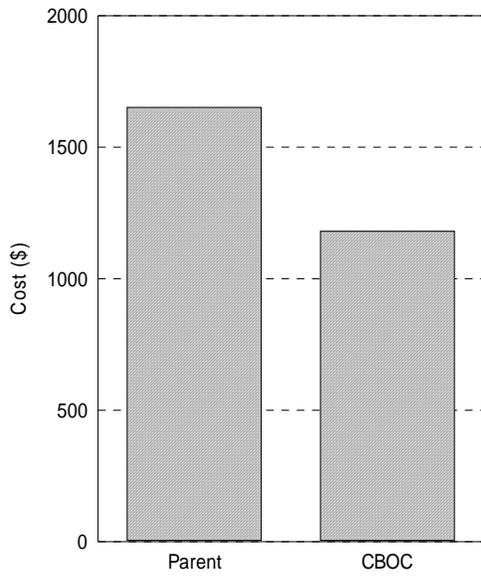
Cost 1: Average Direct Cost Per Primary Care Visit



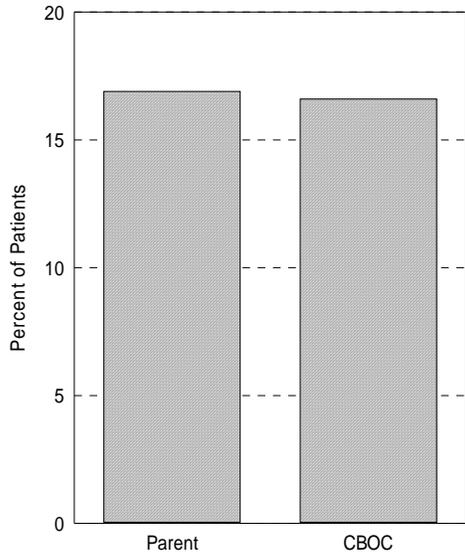
Cost 2: Average Primary Care Direct Cost Per Patient



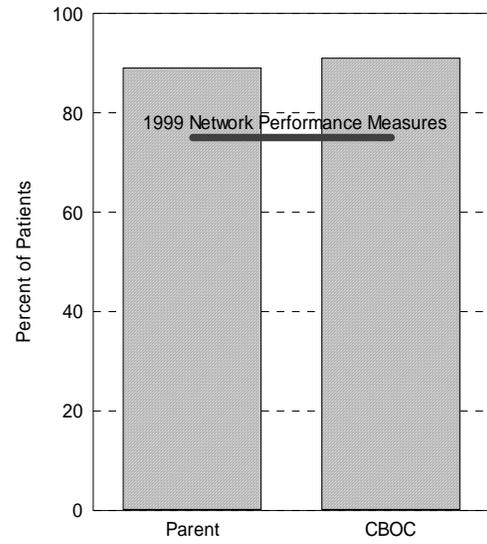
Cost 3: Average Total Direct VA Health Care Cost Per Patient



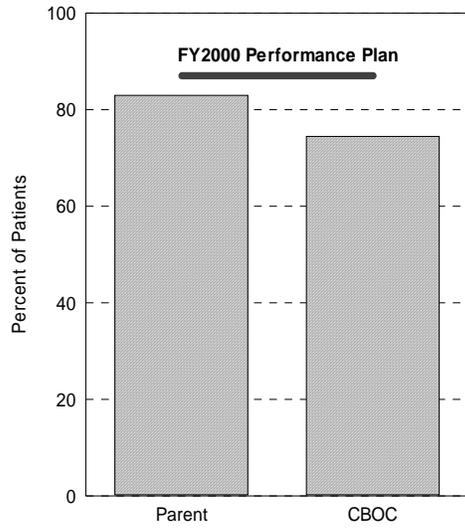
Mental Health 1: Patients Assigned A Mental Health Diagnosis



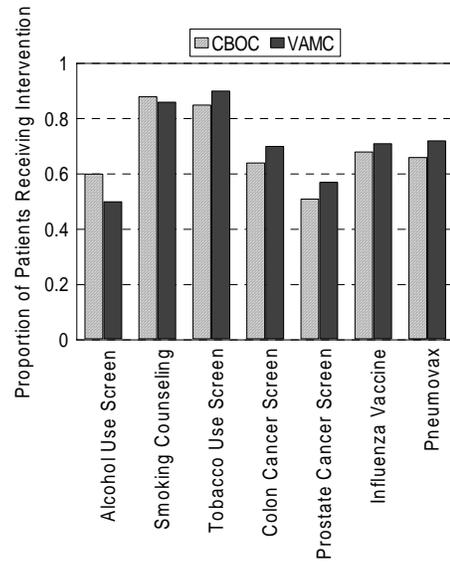
Mental Health 3: Patients Seen Within 30 Days After Hospitalization For A Mental Health Disorder



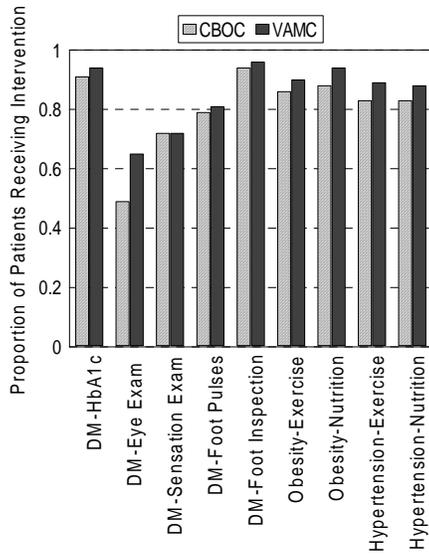
Quality 1: Patients Reporting One Provider Or Team In Charge Of Care



Quality 2: Prevention Indicators

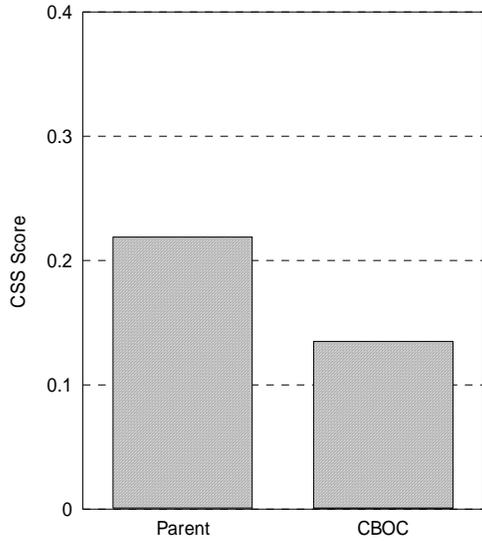


Quality 3: Chronic Disease Care Indicators



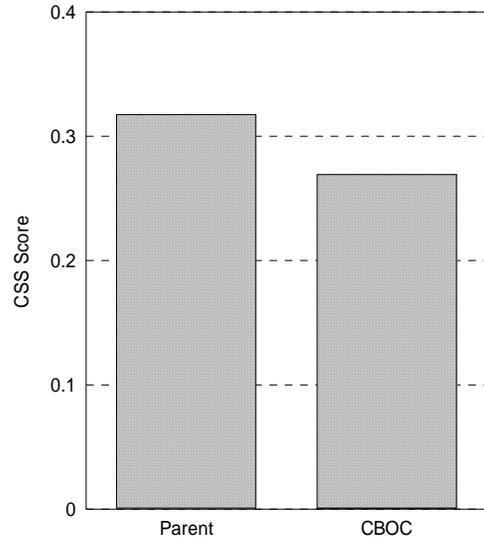
Satisfaction 1a: CSS Score - Access/Timeliness

(Higher CSS Scores Denote More Perceived Problems)



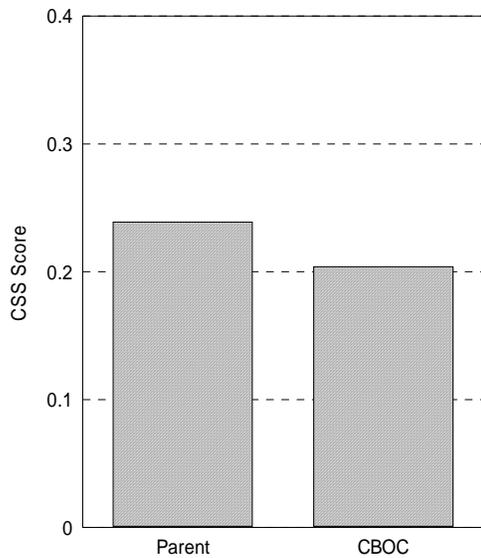
Satisfaction 1b: CSS Score - Patient Education/Information

(Higher CSS Scores Denote More Perceived Problems)



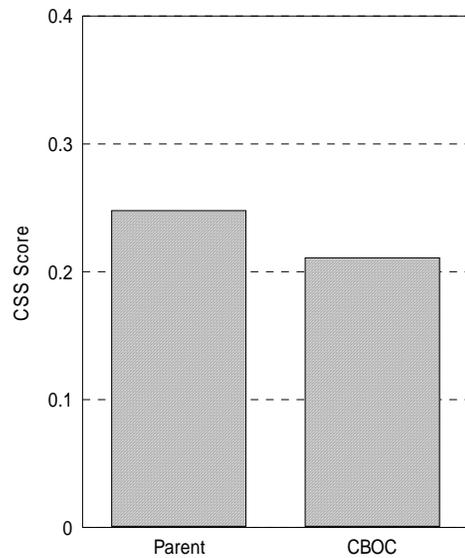
Satisfaction 1c: CSS Score - Preferences

(Higher CSS Scores Denote More Perceived Problems)



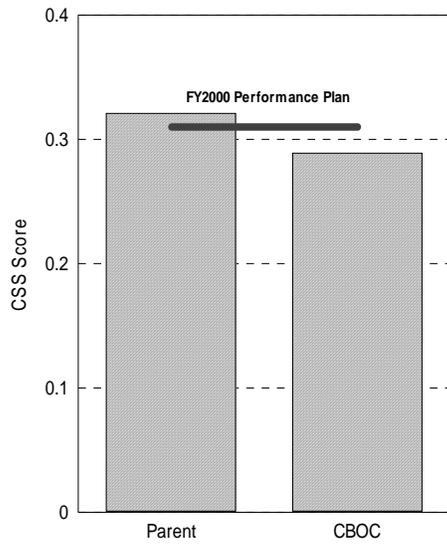
Satisfaction 1d: CSS Score - Emotional Support

(Higher CSS Scores Denote More Perceived Problems)



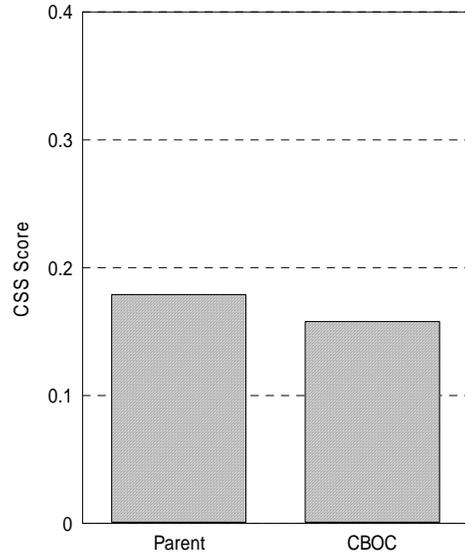
Satisfaction 1e: CSS Score - Coordination Of Care (Overall)

(Higher CSS Scores Denote More Perceived Problems)



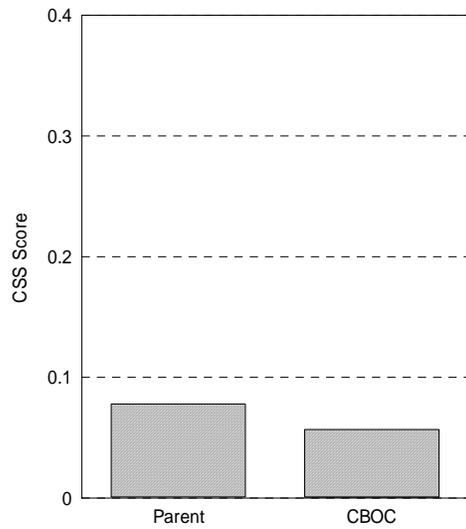
Satisfaction 1f: CSS Score - Coordination Of Care (Visit)

(Higher CSS Scores Denote More Perceived Problems)



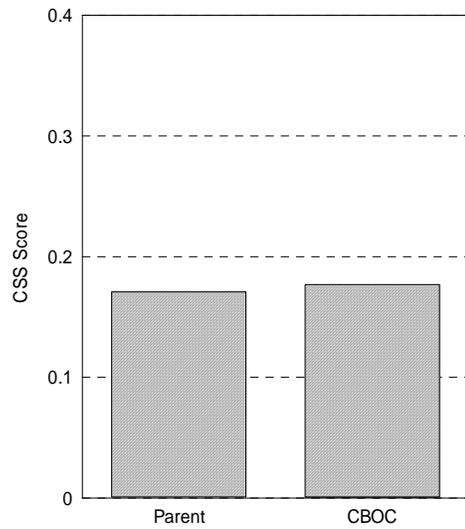
Satisfaction 1g: CSS Score - Courtesy

(Higher CSS Scores Denote More Perceived Problems)

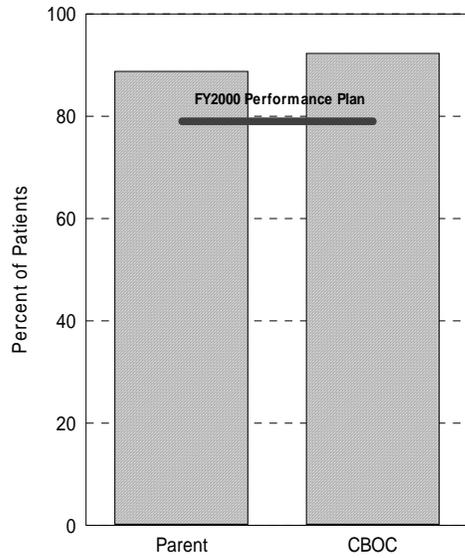


Satisfaction 1h: CSS Score - Specialty Care Access

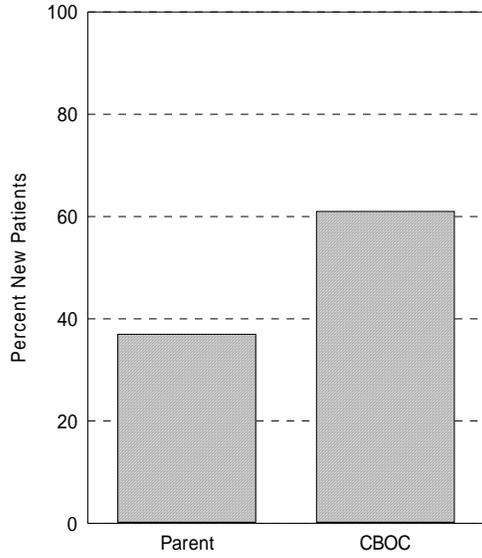
(Higher CSS Scores Denote More Perceived Problems)



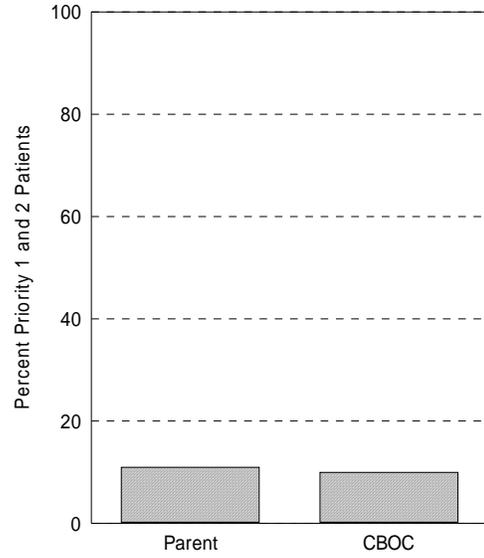
Satisfaction 2: Percent of Patients Rating Healthcare As Very Good Or Excellent



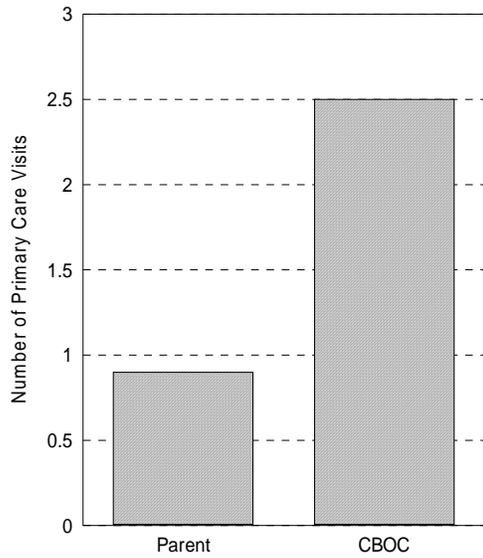
Utilization 1a: User Status Of Patients



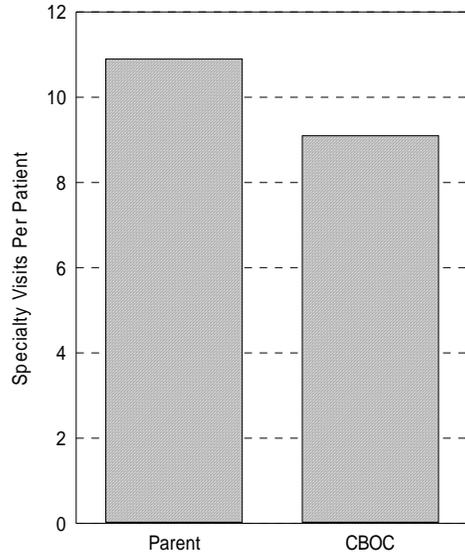
Utilization 1b: Priority Status of Patients



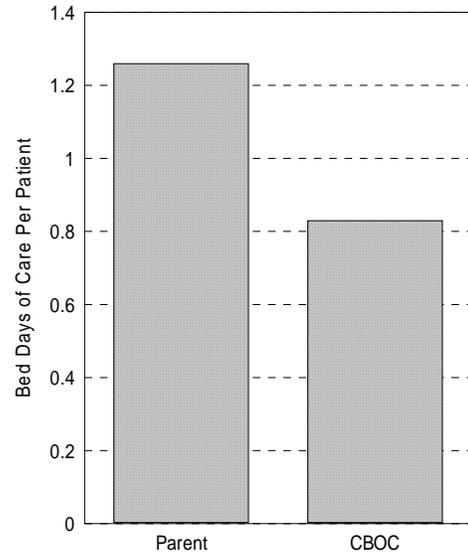
Utilization 2: Average Number Of VA Primary Care Visits Per Patient



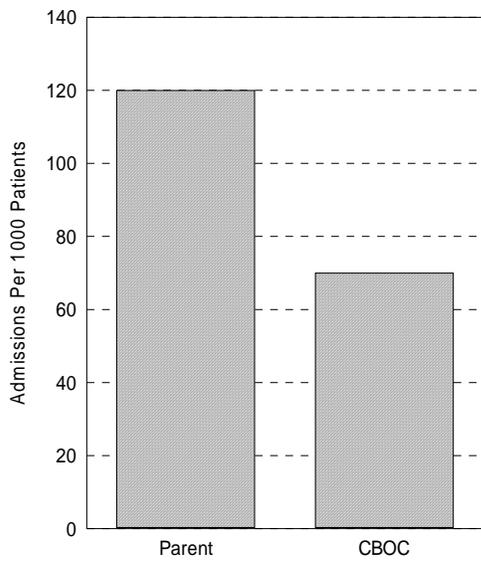
Utilization 4: Average Number of VA Specialty Visits Per Patient



Utilization 6: VA Bed Days Of Care Per Patient



Utilization 7: Average Number Of VA Hospital Admissions Per 1000 Patients



APPENDIX E

CBOC PERFORMANCE MEASURES THAT HAVE NATIONAL OR VISN PERFORMANCE GOALS

CBOC Performance Measure	Source of Measure Concept					
	1999 Network Directors' Performance Measures		FY 2000 Performance Plan			
	Network Goals		Systemwide Goals			
	Fully Successful based on FY99 data	Exceptional based on FY99 data	FY1999	FY2000	FY2001	FY2002
Access 2: Percent of patients seen within 20 minutes of scheduled appointment	15		65%	70%	80%	90%
Mental Health 3: Percent of patient seen within 30 days after hospitalization for a mental health disorder	75%	90%	75%	77%	80%	82%
Quality 1: Percent of patients reporting one provider or team in charge of care			87%	89%	91%	93%
Quality 2: Prevention Index	85%	90%	87%	89%	91%	94%
Quality 3: Chronic Disease Index	90%	95%	91%	93%	95%	95%
Satisfaction 1a-d, f, g: Customer Service Satisfaction Scores	Average score of 0.14 ¹⁶					
1a. Access		0.08 ¹⁷				
1b. Education		0.21				
1c. Preferences		0.11				
1d. Emotional Support		0.15				
1f. Coordination of Care (visit)		0.06				
1g. Courtesy ¹⁸		0.05	8%	7%	6%	5%
Satisfaction 1e: Coordination of Care (overall)			31%	29%	27%	25%
Satisfaction 2: Percent of patients rating healthcare as very good or excellent			79%	83%	87%	91%
Utilization 6: VA bed days of care ¹⁹			1500	1400	1350	1325

¹⁵ This was a Network Directors' Performance Measure in FY98 but dropped in FY99.

¹⁶ The network performance goal equals the average 1997 non-VA benchmark of 0.14 for 1a-d, f, g.

¹⁷ The individual network performance goal matches the 1998 non-VA benchmark performance on each CSS.

¹⁸ Courtesy is a separate measure with independent goals in the FY2000 Performance Plan.

¹⁹ The current national standard for Utilization 6: Bed Days of Care is based upon patients seen in a specialty clinic. This would need to be modified for patients seen in primary care.

APPENDIX F

REASONS SELECTED CBOC PERFORMANCE MEASURES WERE NOT ASSESSED AND/OR NOT RECOMMENDED

Measure	Not Assessed	Not Recommended	Reason Not Assessed and/or Recommended
Access			
Access 1: Average travel distance for CBOC patients (in different priority and user categories) to the CBOCs vs the Parent VAMCs		X	All CBOCs analyzed in the CBOC Performance Evaluation Project reduced travel distance for the average patient (see Report 2: Access and Cost). This measure is therefore not likely to provide useful information.
Access 4: Percent of veterans who were able to access medical care when they needed care	X	X	Not currently available from National Outpatient Customer Satisfaction Survey or other source.
Access 5: Percent of priority 1 and 2 veterans not using VA primary care and residing within 30 miles or 31-60 miles of a VA facility		X	This measure did not assess change in market penetration from before to after implementation of CBOCs. It is therefore difficult to infer the cause of any differences between a CBOC and its Parent VA facility (See Report 2: Access and Cost).
Cost			
Cost 4: Change in fee-basis costs before and after activation of the CBOC	X	X	Fee-basis expenditures are recorded in the Austin Automation Center by date of payment not by date of utilization. Date of payment can be over a year after the date of utilization.
Mental Health			
Mental Health 2: Average weighted outpatient workload per clinical mental health FTEE	X	X	Could not obtain clinical mental health FTEE from a national database.
Quality			
None			
Satisfaction			
Satisfaction 3: Percent of patients rating their VA healthcare encounter as equivalent to or better than what they would receive from any other healthcare provider	X	X	Current wording of relevant question on National Outpatient Customer Satisfaction Survey may not sufficiently distinguish CBOC from other VA care
Utilization			
Utilization 3: Average weighted outpatient workload per clinical FTEE	X	X	Could not obtain clinical mental health FTEE from a national database.
Utilization 5: Percent of patients who have: 1) seen a non-VA physician in the past 12 months, 2) been admitted to a non-VA hospital in the past 12 months	X	X	Not currently available from National Outpatient Customer Satisfaction Survey or other VA national database.
Utilization 7: Average number of VA hospital admissions per 1000 patients		X	Similar to Utilization 6: VA Bed Days of Care.